

JPRS 80289

10 March 1982

China Report

AGRICULTURE

No. 193



FOREIGN BROADCAST INFORMATION SERVICE

NOTE

JPRS publications contain information primarily from foreign newspapers, periodicals and books, but also from news agency transmissions and broadcasts. Materials from foreign-language sources are translated; those from English-language sources are transcribed or reprinted, with the original phrasing and other characteristics retained.

Headlines, editorial reports, and material enclosed in brackets [] are supplied by JPRS. Processing indicators such as [Text] or [Excerpt] in the first line of each item, or following the last line of a brief, indicate how the original information was processed. Where no processing indicator is given, the information was summarized or extracted.

Unfamiliar names rendered phonetically or transliterated are enclosed in parentheses. Words or names preceded by a question mark and enclosed in parentheses were not clear in the original but have been supplied as appropriate in context. Other unattributed parenthetical notes within the body of an item originate with the source. Times within items are as given by source.

The contents of this publication in no way represent the policies, views or attitudes of the U.S. Government.

PROCUREMENT OF PUBLICATIONS

JPRS publications may be ordered from the National Technical Information Service, Springfield, Virginia 22161. In ordering, it is recommended that the JPRS number, title, date and author, if applicable, of publication be cited.

Current JPRS publications are announced in Government Reports Announcements issued semi-monthly by the National Technical Information Service, and are listed in the Monthly Catalog of U.S. Government Publications issued by the Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402.

Correspondence pertaining to matters other than procurement may be addressed to Joint Publications Research Service, 1000 North Glebe Road, Arlington, Virginia 22201.

10 March 1982

CHINA REPORT

AGRICULTURE

No. 193

CONTENTS

PEOPLE'S REPUBLIC OF CHINA

I. GENERAL INFORMATION

National

- Planting of Trees To Prevent Soil Erosion Emphasized
(Lu Yi, Ai Li; GUANGMING RIBAO, 25 Dec 81)..... 1
- Damage by Soil Erosion Along Changjiang Described
(Wang Zhan, Chen Chuanguo; GUANGMING RIBAO, 25 Dec 81)..... 4

Beijing

- 'XINHUA' Notes Progress in PRC's Metrological Work
(XINHUA, 15 Feb 82)..... 7

Briefs

- Metrological Work in 1982 8
- Beef Cattle Corporation 8

Guangdong

Briefs

- Hainan County Grain Production 9

Henan

- Rally Commends Huanghe River Model Workers
(Henan Provincial Service, 15 Feb 82)..... 10

Jiangxi

- Circular Calls for Spring Farming Efforts
(Jiangxi Provincial Service, 21 Feb 82)..... 12

Shanxi

Governor on Province's Afforestation Problems (Shanxi Provincial Service, 10 Feb 82).....	14
--	----

Shanghai

Briefs Guodong at Shanghai Conference	16
--	----

Sichuan

Cadres Carry Out Investigations (Sichuan Provincial Service, 13 Feb 82).....	17
---	----

II. PUBLICATIONS

Publications

Table of Contents, 'SENGONG KEJI TONGXUN' No 11, 15 Nov 91 (SENGONG KEJI TONGXUN, 15 Nov 91).....	18
--	----

TAIWAN

Briefs Soybeans From Paraguay	19
Rice Production	19

ABSTRACTS

AGRICULTURAL RESEARCH

HUBEI NONGYE KEXUE [HUBEI AGRICULTURAL SCIENCES], No 1 Jan 82).....	20
---	----

SHANXI NONGYE KEXUE [SHANXI AGRICULTURAL SCIENCES], No 1, 20 Jan 82).....	22
--	----

FORESTRY TECHNOLOGY

LINYE KEJI TONGXUN [FOREST SCIENCE AND TECHNOLOGY], No 1, 10 Jan 82).....	26
--	----

SOIL RESOURCES

ZIRAN ZIYUAN [NATURAL RESOURCES], No 4, Dec 81.....	28
---	----

VETERINARY MEDICINE

ZHONGGUO SHOUYI ZAZHI [CHINESE JOURNAL OF VETERINARY MEDICINE], No 11, 22 Nov 81).....	31
---	----

I. GENERAL INFORMATION

PLANTING OF TREES TO PREVENT SOIL EROSION EMPHASIZED

Beijing GUANGMING RIBAO in Chinese 25 Dec 81 p 3

[Article by Lu Yi [6424 2496] and Ai Li [1947 7812]: "Trees and Soil Erosion"]

[Text] Over 2,000 years ago, Qin Shi Huang transferred 700,000 people from all over the nation to Changan to carry out massive construction of elegant palaces and huge tombs. For this purpose, many forests in the Weihe Plain and on the mountains behind the plain were felled. By the Tang dynasty, Changan had already been burned down and rebuilt several times. The indiscriminate felling of forests caused soil erosion, and the Jinghe had become turbid. The water of the Weihe, which flowed through mountain land covered by huge forests, was still clear at the time. When did the Weihe become turbid? History did not leave us with any record, but it can be imagined that the indiscriminate felling of forests enlarged the area of desert and too much herding hastened this process.

Now, sections of the Great Wall at many places in northern Shaanxi are already buried in the desert; only the beacon towers can still be discerned. The Huanghe flows eastward, bringing large amounts of mud and sand away from the Northwest loess plateau, and it pours the mud and sand into the Sanmenxia reservoir, forcing the engineers to change the high dam to a low dam. Sedimentation of mud and sand have elevated the riverbed. The riverbed of the section of the Huanghe at the ancient capital of Kaifeng has already risen above the plains on the two sides of the dikes and dams. Although the dikes and dams have been continuously heightened, a serious threat of flooding still exists. The amount of flow of China's largest river--the Changjiang--greatly surpasses that of the Huanghe, but because the forests in the river valleys have been felled, soil erosion has become more and more serious, creating the danger of the Changjiang becoming a "second Huanghe."

Undoubtedly, to solve the increasingly serious problem of silting of mud and sand in large rivers, large-scale planting of trees and forestation must be continued. In a nation like China which has been seriously affected by floods, drought, and damage from sand and soil erosion, propagandizing and educating the people in disaster prevention and resistance must be carried out frequently.

The Jinshatan, in the southwest of Datong in Shanxi, was originally a piece of dry land. Now, cultivated fields and gardens exist among green trees, and it is not as arid as it used to be. One tree can release 200 gallons of water into the air every day! Protecting trees is a matter of life or death for the people.

The farm villages lack firewood. This is an important reason that aggravates the destruction of forests. Popularizing methane in a big way is an effective way to solve the difficulties of firewood in farmvillages. In certain regions of Sichuan, the residents spent 20 percent of their income on fuel, but now, people can see that they have changed over to using methane completely. In addition, widely utilizing solar energy and wind energy is also an important way to solve the energy problem in farm villages.

In western Yunnan, I saw a commune member of Yi nationality who planted walnut trees over a large area, pressed oil from the kernels and sold the oil on the market, and thus increased his family income. The people of Abazang nationality in western Sichuan have planted a lot of walnut trees. The growth trend is good and the nuts are plentiful. Most of the area in Sichuan is lowland, the weather is hot and unsuitable for planting apple trees. But in Songpan, at 4,000 meters above sea level, apples are growing well. Inland China is expansive, there are few people, and planting economic forests will help improve the standard of living of the farmers. Developing water sources to nurture the forests is of importance in stopping soil erosion.

Lankao County is situated on the banks of the Huanghe in eastern Henan. In the past, mud and sand from the Huanghe covered the county many times, leaving many sand dunes without even an inch of grass growing on them. Later, the secretary of the county committee, Jiao Yulu [3542 5940 4389], found a way to harness the sand dunes--covering the sand dunes with a layer of soil and planting paulownia. This kind of tree grows quickly. The exported timber also sells well. It is suitable for making clogs worn by the Japanese and it can also be used to make model airplanes. Now, this kind of paulownia that is favored by people has been planted in large numbers in the fields of Henan Province.

To tree lovers, there are many superior varieties of trees around Beijing. Jitan Park has ancient pine and cypress trees 2,000 years old. The planting of the huge lacebark pines and China fir in Tuancheng in Beihai Park can be traced back to the time of Kublai Khan. Tanzheshi in Xishan has tall and ancient ginkgo trees. The dense group of mountains in the Xiangshan area shows us the great potential of the forests in improving barren hills and barren mountains.

This year, the renowned forestry expert, 92-year-old Richard Baker visited Beijing. He pointed out with emphasis: "Many of the major problems in today's world are directly related to the lack of understanding of the importance of trees." "The function of forests, especially natural forests, in balancing the ecological environment is far greater than their own economic value. The life cycle of trees is a priceless treasure of the land. The roots of trees extend deeply to absorb minerals in the soil and transport them to the branches and leaves. When the leaves fall, the branches and leaves provide additional fertilizer for grass and crops and create conditions for the propagation and growth of earthworms. One earthworm excretes once every 24 hours. One acre of land with a relatively large number of earthworms can receive 15 tons of excrement from earthworms a year. Trees can also raise the water table of springs. Moisture evaporates into the air through the leaves, and this is beneficial to improving parts of the microclimate."

In China, the regions of confluence of large rivers and the areas surrounding reservoirs need to be planted with large numbers of trees first of all. We should remember the real threat of silting of mud and sand in the two major rivers running through China, and exert every effort to fundamentally solve this problem.

9297

CSO: 5000/4013

DAMAGE BY SOIL EROSION ALONG CHANGJIANG DESCRIBED

Beijing GUANGMING RIBAO in Chinese 25 Dec 81 p 3

[Article by Wang Zhan [3769 2069] and Chen Chuanguo [7115 0278 0948] of the Forest Soil Institute of the Chinese Academy of Sciences: "Do Not Let the Changjiang Become Another Huanghe"]

[Text] This year, flooding peaked on the upper reaches of the Changjiang, causing damage and extremely severe losses of human lives and property in more than a hundred counties and regions. To understand the causes of the damage and to find a fundamental way to control the flood waters of the Changjiang, we investigated the conditions of soil erosion in the regions of the middle and upper reaches of the Changjiang.

Is the Changjiang in danger of becoming a Huanghe? This question has indeed attracted attention throughout the nation because the Huanghe has already brought serious disasters upon us; since the Changjiang River Valley is the heartland of the Chinese nation and since half of the territory of the nation is here, a change in it will of course affect the roots of the nation.

After investigation, we have come to believe that the warning that "the Changjiang is in danger of becoming a Huanghe" is not without foundation. The present ecological conditions of the Changjiang have already become very bad, and they are continuing to worsen. Irreparable ecological disaster has already been caused in some regions.

The total amount of mud and sand poured into the ocean by the Changjiang reaches 500 million tons a year, about one-third that of the Huanghe. The area of soil erosion in the Changjiang River Valley is 360,000 square kilometers, constituting 20 percent of the total area of 1.8 million square kilometers of the river valley. The total amount of eroded soil each year is about 2.4 billion tons. Massive soil erosion has elevated the riverbed and caused silting and blocked lakes. For 20 years, the average amount of silting of the riverbeds of the five rivers--Fuhe, Songzihe, Huduhe, Xishui, Jushui--in Hubei Province has reached over 1.5 meters. In the past large sailboats could sail on the rivers, but now the rivers are not favorable for sailing and even the natural catch has been cut off. The area of Lake Dongtinghu, which serves an important regulatory function for the Changjiang, has lessened by more than 1,600 square kilometers, and now the area of the lake is only a little over 2,700 square kilometers.

Soil erosion over large areas not only silts and blocks river channels and lakes, it also destroys farmland and lowers soil fertility. Of Xishui County's 700,000 mu of cultivated land, there are already 104,000 mu of fertile fields that have become sandy and pebble beaches because of a long period of scouring by sand and soil erosion. In terms of chemical fertilizers, the amount of soil of the Changjiang River Valley that has been eroded is equivalent to the total amount of chemical fertilizers produced by 50 chemical fertilizer plants each with an annual capacity of 500,000 tons.

Because soil erosion has caused the riverbeds to rise, the capacity of the river channels and the amount of water stored by the lakes have lessened and the ability to discharge flood waters has dropped; thus, when floods occur, water frequently overflows the embankments and causes damage. Statistics of only the three administrative offices of the mountain regions (Enshi, Yichang and Yunyang) showed that the area of farmland destroyed by flood waters from the mountains reached 740,000 mu, 26,000 houses collapsed, and 86,000 water conservancy facilities were destroyed. The loss caused by the major flood in Sichuan this year was even more shocking.

Continued silting by mud and sand coming down from the mountains has also adversely affected water conservancy projects. The current amount of mud and sand entering the Danjiangkou Reservoir each year is 115 million tons. Within the short period of just over a decade, silting in this reservoir has reached 580 million cubic meters. About one twenty-seventh of the reservoir capacity has been lost. The useful life of the reservoir will be greatly shortened.

Difficulties have been created for navigation because the riverbeds have risen. Navigational channels have become shallow, and the difference between high and low waters has become greater. Hubei Province now has 214 navigable rivers out of 7,899 kilometers of navigable mileage, 6,455 kilometers less than in 1960. The Zhengjiang port used to be a superior port. Because of silting by mud and sand year after year, the original navigation channel had to be abandoned. Although the navigation channel has now been rerouted, the area of water being used has lessened dramatically. In 1976, the navigation channel was closed for as long as 3 months.

The water in today's Changjiang is as turbid as the water of the Huanghe. The content of sand has reached 1 kilogram per cubic meter. As long as 37 years ago, China's renowned forestry expert Hao Jingsheng [6787 2529 4141] issued a severe warning about the indiscriminate felling of forests along the upper reaches of the Changjiang. He said: If this continues for a long time, nobody can be sure that in the future the Changjiang will not become like today's Huanghe; the time of floods and disaster on the lower reaches of the Changjiang, I am afraid, will not be far away!

Historically, the Huanghe was not called Huanghe. It was called the "big river." It was such factors as the severe destruction of forests for several years and irrational reclamation causing soil erosion that changed the "big river" into the Huanghe. Its content of mud and sand has reached 37 kilograms per cubic meter, leading all major rivers of the world.

The history of the Huanghe, which has changed from a beneficial river into a source of destruction, is the history of the destruction of the forests and grasslands of the upper reaches. Today, the Changjiang is also following in the footsteps of the Huanghe. If this continues for a long time, the result will necessarily be the same as for the Huanghe.

In Sichuan Province alone, the forests along the river valleys of the tributaries of the Changjiang have already been seriously destroyed. Today, the percentage of land covered by forests in Sichuan Province has dropped drastically, from 19 percent in the 1940's to 13.3 percent, and the percentage of land covered by forests in the hilly regions of central Sichuan is only 3-5 percent. According to statistics of 139 counties, there are only 12 counties with a forest covering larger than 30 percent, only 22 counties have maintained a forest covering of 20 to 30 percent, and as many as 91 counties have a forest covering of less than 10 percent. There are also 14 counties with a forest covering of less than 1 percent. Unplanned felling and destruction of forests and reclamation have changed the original forests into barren land where not even an inch of grass grows. Irrational planting systems such as planting on precipitous slopes, slash-and-burn cultivation, etc have also caused major destruction of forests.

Forests can regulate climate, break winds, stabilize sand, conserve water and soil, and prevent damage by floods and drought. According to experiments conducted by forestry workers, each hectare of forests can store 300 to 2,000 tons of water, varying according to the type of forest and the structure of the standing forest. If all the unclaimed mountains and unclaimed land of the Changjiang River Valley were forested, then, calculating on the basis of a storage of 300 tons of water per hectare, they would be equivalent to building 20,000 to 30,000 small reservoirs capable of storing 20 billion to 30 billion tons of water, twice the capacity of the Danjiang reservoir--our nation's largest reservoir.

Scientific research has proven that the amount of soil erosion of exposed land is seven to eight times the amount of forested land. The surface runoff from a 39-degree slope of sophora forests 5 to 7 years old is 85.1 percent less than that from a 27-degree slope of cultivated land, and soil erosion is less by 58 percent. It can be seen from this that during the season of torrential rains, forests can prevent the occurrence of mountain torrents, and during the flooding period, forests can weaken and slow down the peak of the flood.

To realize the goal of preventing floods by regulating water and controlling water on the mountains, it is necessary to build reservoirs to store water and embankments to prevent flood waters in the Changjiang River Valley. But the fundamental problem is still conservation of water and soil so that they will not erode and not come down the mountains. This requires protecting the vegetation on the mountains well, especially forest vegetation. This means that to control water, the water on the mountains must first be controlled; and to control the water on the mountains, forests must first be planned; and to store water in reservoirs, water must first be stored by forests. All water conservancy, forestry and related departments should join together and exert efforts with one heart and mind to control the water in every river and on every mountain well, to save the Changjiang, and to prevent the Changjiang from repeating the history of the Huanghe.

'XINHUA' NOTES PROGRESS IN PRC'S METROLOGICAL WORK

OW160042 Beijing XINHUA in English 0756 GMT 15 Feb 82

[Text] Beijing, 15 February (XINHUA)--Chinese scientists have produced a Rochwell laser primary standard, a meter which has raised China's metal hardness tests to an advanced world level, according to Li Leshan, director of the State Bureau of Metrology here today.

Other metrological achievements include production of a cesium atomic time-frequency standard and a germanium resistance thermometer.

He said China was paying great attention to enterprises' setting up metrological units. The number of metrologists in major metallurgical works account for about two percent of the work staff. Seven hundred and thirtythree enterprises in Liaoning Province have established departments responsible for measurement work, an increase of 14.7 percent over 1980.

Metrological work had been a weak link in China's economic construction. Leadership over it had to be strengthened for economic modernization.

More metrological institutions, in addition to scientific research, provided measurement and test services for localities. The Chinese Academy of metrology and metrological bureaus in Shanghai, Shaanxi, Tianjin, Sichuan and five other provinces and municipalities completed 171 such projects last year for agriculture, light industry, machine-building, electronics and foreign trade.

More attention was being paid to measuring energy consumption in production, he said. Reports from 23 enterprises in Sichuan Province show economy of 100 million kilowatts of electricity, 1.4 million tons of coal and 70 million cubic meters of natural gas from January 1980 to June 1981. This was worth more than 100 million yuan, he added.

More than 20 provinces, municipalities and autonomous regions had issued regulations for control of weighing machines.

Weighing machines had been tested and repaired. Last year 76 percent of the commercial weights and measures were up to standard as against 65 percent in 1979, according to a general survey in Jiangsu Province.

CSO: 4020/101

BRIEFS

METROLOGICAL WORK IN 1982--Beijing, 15 February (XINHUA)--Li Leshan, director of the State Bureau of Metrology, today called on the nation's factories, businesses and shops to check and correct their measurement standards and weighing machines. His call, he said, is part of an effort to raise product quality and conserve energy. He said the emphasis of this year's work would be laid on the large and medium-sized enterprises. All the measurement standards and 95 percent of the weighing machines in use there are required to pass the inspection. The work would also spread to small and county- and commune-run enterprises. Efforts would be made this year to measure energy consumption. Metrological departments would help industrial enterprises consuming more than 50,000 tons of coal annually to install energy measurement instruments. All large and medium-sized enterprises throughout the nation, he hoped, would be equipped with such instruments in the next 2 or 3 years. He said a campaign to check and repair commercial weighing machines would be launched, with special attention to peasant markets. He said scientific research in measurement and the provision of testing services would be improved this year. Each metrological institution at the provincial, municipal and autonomous regional levels are to tackle at least five to 10 major metrological problems and tests each year. He said drafting of laws guaranteeing unification and accuracy of metrology would be stepped up this year. [Text] [OW152358 Beijing XINHUA in English 0803 GMT 15 Feb 82]

BEEF CATTLE CORPORATION--Beijing, 9 Feb (XINHUA)--China has set up a corporation in Beijing recently for marketing beef cattle abroad and supplying quality beef for big hotels and foreign residents in Beijing. The China beef cattle supplying corporation has two million head of cattle in stock, mostly of improved breeds introduced from abroad. China has a total of 70 million head of cattle, mainly as draft animals. Since early 1970's, China has made vigorous efforts to develop the production of beef cattle. More than 140 counties across the country have their own breeding farms. Forty more will follow suit. The number of beef cattle is expected to grow remarkably in the years to come under the present policy of encouragement. China has exported a total of 300,000 live beef cattle over the past 4 years. Export will continue to grow this year. [OW141312 Beijing XINHUA in English 0728 GMT 9 Feb 82]

BRIEFS

HAINAN COUNTY GRAIN PRODUCTION--Guangzhou, 22 Feb (XINHUA)--Dongfang County on Hainan Island in Guangdong Province scored achievements in agricultural production after implementing the responsibility system. As a result, the county's total grain output in 1981 increased by 48.7 percent over that in 1980. The county sold more than 13 million jin of grain crops to the state in 1981. [OW251405 Beijing XINHUA Domestic Service in Chinese 0704 GMT 22 Feb 82]

CSO: 4007/229

RALLY COMMENDS HUANGHE RIVER MODEL WORKERS

HK161026 Zhengzhou Henan Provincial Service in Mandarin 1100 GMT 15 Feb 82

[Summary] The Huanghe River Water Conservancy Committee of the Ministry of Water Conservancy held a rally to sum up experiences in harnessing the Huanghe River and to commend the model workers. The rally which had lasted 5 days concluded in Zhengzhou on 14 February. At the closing ceremony, the Huanghe River Water Conservancy Committee commended 231 model and advanced workers and 48 advanced collectives in harnessing the Huanghe River.

"With a view to seriously implementing the principle on economic construction which the fourth session of the fifth NPC formulated and in the light of the present condition of the Huanghe River, the rally defined the guiding ideology for harnessing the Huanghe River, namely abolishing what is harmful, promoting what is advantageous, promoting multipurpose uses, strengthening management, promoting economic effect and serving the four modernizations even better. The specific principle and task is that it is essential to establish a long-term anti-flood ideology of regarding drainage as the major work. Flood control at the lower reaches is a major, long-term task in harnessing the Huanghe River. In building the embankment projects at the lower reaches, it is necessary to adopt the principle of "walking on two legs"--manual and mechanical construction. The employment of laborers to work on the public projects must be regarded as the major method and carrying out construction with machinery must be regarded as an auxiliary method. The abolition of what is harmful must be linked with the promotion of what is advantageous. We must take the road of promoting multipurpose uses." In water and soil conservation, we must regard the development of agricultural, forestry and livestock production in localities as the major task and strive to implement the economic responsibility system. We must promote economic effect. We must achieve the greatest economic effect with the least consumption of manpower and material resources. We must attach importance to the role of science and technology in harnessing the Huanghe River. Following the development of the national economy, we must lay a good foundation for harnessing the Huanghe River in the period of the sixth 5-year plan and strive to gradually build a project system which can be of multipurpose use in the period of the seventh 5-year plan and in the 1990's. By that time, we can greatly reduce the flood threat to the lower reaches and will have an additional several billion cubic meters of water for industrial and agricultural use. We can basically meet the water needs on both sides of the Huanghe River for irrigating the farmland and for the cities along the Huanghe River. We can also supply water to Beijing and Tianjin.

The current major task in harnessing the Huanghe River is still flood control at the lower reaches. The task is very arduous. The rally held: "Under the leadership of CCP Committees and governments along the Huanghe River, flood control departments at all levels at the lower reaches must first step up the repair of the embankment projects this spring. We must make preparations and start work at an early date. The majority of these projects must be completed before this spring. We must make good preparations for possible big floods so as to achieve a new victory in Huanghe River flood control this year."

CSO: 4007/233

CIRCULAR CALLS FOR SPRING FARMING EFFORTS

OW241253 Nanchang Jiangxi Provincial Service in Mandarin 1100 GMT 21 Feb 82

[Excerpts] The Jiangxi Provincial CCP Committee and the Provincial People's Government issued an urgent circular on 20 February calling on people in the province to make spring farming a success. The circular reads:

1. Agricultural production plans must be earnestly fulfilled. As for the agricultural economy, we must never depart from the policy of considering planned economy as the mainstay and market regulation as a supplement. All communes and brigades must formulate and carry out their production plans under the guidance of the state plan. Peasants must be guided to develop their production according to the state plan and society's demands. Agricultural production plans must be carried out according to the principle of never slackening cereal crop production and of actively promoting economic diversification. Economic diversification is a prominent weakness in our province. Efforts must be made this year to achieve a breakthrough in this regard.
2. The various systems of production responsibility must be reviewed, improved and stabilized. The signing of economic contracts, which are most essential for improving the responsibility systems, must be handled properly. The contracts signed in 1981 must be honored so that the solemnity of these contracts can be maintained.
3. The infrastructures of communes and brigades must be properly reorganized and strengthened. At present the organizations and leading groups of some production teams are listless, and some are even in a state of paralysis or semiparalysis. Many tasks are not done properly because nobody is in charge. Unhealthy tendencies are developing and spreading. This is a serious problem that leaders at all levels cannot afford to ignore. Political and ideological education must be intensified to stabilize the contingent of cadres of communes and brigades and to ascertain the cadres' responsibilities. To fully mobilize the grassroots cadres' initiative to fulfill their obligations and actively shoulder the various tasks of developing the rural economy, we must help them solve actual problems, warmly support them and encourage them to work audaciously.
4. Supplies needed for spring farming must be ensured. As fertilizer shortage is a prominent problem this year and green manure has dropped in acreage and is not growing well, efforts must be made to quickly expand manure resources, such as by accumulating farm yard manure and intensifying green manure cultivation. To in-

crease the output of fertilizer and pesticide plants, their coal, electricity and raw material supply must be effectively ensured.

5. Leadership must be strengthened. Work style must be improved. This year Jiangxi must increase its total agricultural output value by 5 percent, including a 7 percent increase of output value in economic diversification. This is a very difficult task. Party committees and governments at all levels in the rural areas must therefore concentrate their efforts on conducting penetrating investigation, supervise and check the actual situation and solidly and properly organize the various aspects of spring farming.

The Provincial Party Committee has decided that one-third of the cadres of provincial organizations will be sent with their leading comrades to various localities to assist the local party committees and governments to review, improve and stabilize the various systems of responsibility in agricultural production, build a sound infrastructure, intensify ideological and political work in the rural areas and carry out the various production plans in an effort to make spring farming a success.

CSO: 4007/233

GOVERNOR ON PROVINCE'S AFFORESTATION PROBLEMS

HK110549 Taiyuan Shanxi Provincial Service in Mandarin 2300 GMT 10 Feb 82

[Summary] The Shanxi Provincial Afforestation Committee held its first plenary meeting on 10 February to discuss the question of how to mobilize the people of the province to launch a mass tree-planting drive. Luo Guibo, chairman of the committee, second secretary of the Provincial CCP Committee and governor, presided. (Liu Qingquan), vice chairman of the afforestation committee and director of the provincial forestry department, gave a report on preparations for this drive.

Comrade Luo Guibo spoke at the meeting. He said: "Historically, Shanxi had a very high forest area. However, the forests suffered serious decline in the wake of the population growth and irrational land reclamation work, plus the damage done by war and imperialist plunder. By the early post-liberation period, there were only some 5 million mu of forest left in the province. The forest cover accounted for only 2.4 percent of the province's area. Although the province has made some progress in forestry construction in the past 30 years, the current state of forestry lags far behind the country as a whole, due to the weak foundation and our failure to attach sufficient importance to the work. The forest cover is only 10 percent, compared with 12.7 percent for the whole country. On average there is 1 mu of forest per head of population, compared with 2 mu for the whole country. On average there are 2 cubic meters of timber reserves per head of the population, compared with 10 cubic meters in the whole country. Average consumption of timber per head is 0.08 cubic meters, compared with 0.06 for the whole country. Our proportion of self-sufficiency in timber is also very low. The province uses about 2 million cubic meters of timber a year, of which only 100,000 cubic meters or so can be produced in the province; we have to depend on state allocations for most of our timber.

"Due to the small forest area, there are bare mountains and barren slopes everywhere. Soil erosion is extremely serious. A lot of the silt washed down every year by the Huanghe comes from Shanxi—according to calculations of departments concerned—on average 1.6 billion tons of silt are washed down every year from our province.

"However, we have long had an incomplete idea of the role of forests. We only saw that forests can provide timber and agricultural and sideline products, and neglected or failed to understand their important role in maintaining the ecological balance, preventing soil erosion, resisting drought and preventing flood, controlling silt, preserving the water sources, and in regulating the climate, cleaning the air, beautifying the environment and avoiding natural calamities."

Comrade Luo Guibo stressed: It is necessary to mobilize the whole people to plant trees every year. He said: The provincial people's government has issued a decision on implementing the resolution of the fourth session of the Fifth NPC on this matter. We must now thoroughly understand the importance and urgency of afforestation and tackle it as an important strategic task for changing the situation of drought and serious soil erosion in the province. The Provincial CCP Committee has decided to allocate 16 million yuan from local finances to support forestry production in the province.

CSO: 4007/233

BRIEFS

GUODONG AT SHANGHAI CONFERENCE—Speaking at the municipal conference on agricultural work this afternoon, Shanghai Municipal CCP Committee First Secretary Chen Guodong expounded on the guiding thought, principles and policy to be followed in developing agriculture in the suburban areas of Shanghai, as well as the direction in which leaders of all party organizations at the county, commune and brigade levels should devote their energies. He said: To boost agriculture, develop sideline occupations and readjust industry is what Shanghai suburbs should strive for in the future. Active efforts should be made to get better results in the output of various crops by maintaining it at a steady level first and then raising the output level. Agriculture, sidelines and industry should be developed in an all-round and coordinated manner and by taking agriculture as the key link. In his speech, Comrade Chen Guodong also stressed the need for county and commune party committees and brigade party branches to divert still more of their energies to promoting agriculture, calling on them to put agricultural production on their agenda. The suburban areas should depend mainly on agriculture for production and planned economy should be the key link in the development of the economy. It is necessary to strengthen leadership and political and ideological work and make sure that this year's achievements will be still greater than last year. [Text] [OW170357 Shanghai City Service in Mandarin 1130 GMT 16 Feb 82]

CSO: 4007/218

CADRES CARRY OUT INVESTIGATIONS

HK150752 Chengdu Sichuan Provincial Service in Mandarin 2300 GMT 13 Feb 82

[Summary] "In accordance with the decision of the Sichuan Provincial CCP Committee, provincial organs recently sent some 2,300 cadres to factories and rural areas to carry out investigations in order to grasp well the building of socialist spiritual and material civilization, sum up, stabilize and improve the agricultural production responsibility system, promote the overall rectification of the industrial and communications enterprises and gradually push forward the implementation of the responsibility system in business management which will ensure that the province fulfills this year's national economic plans in an all-round way." Military and government cadres account for one-third of the total number of these cadres. It has been organized by the Provincial CCP Committee that some of them go to 16 municipalities, prefectures and districts and 14 key enterprises, while it has been arranged for some to work in their subordinate units. "The principal task of these cadres is: as far as agriculture is concerned, to help the local CCP Committees to sum up, improve and stabilize the agricultural production responsibility system, grasp well the building of grassroot organizations and implement various forms of economic contracts. At the same time while ensuring a steady increase in grain output, it is necessary to develop diversification and grasp each opportunity to promote spring farming. As far as industry is concerned, they must help the CCP Committees of enterprises improve rectification, promote the building of leadership groups, improve the economic responsibility system, speed up technological renovation, solve problems concerning energy, transportation and communications and grasp well production of the (?engineering) department. Simultaneously, they must also put forth suggestions for improving the establishment of enterprises which retain the whole of their profits and which assume sole responsibility for their own profits or losses. As far as finance is concerned, they must help the grassroots to rectify the commercial enterprises and gradually push forward various forms of the responsibility system in business management, correct the orientation of business, promote contracts between agricultural and commercial production and strengthen guidance over diversification plans in the rural areas. They must also sum up and popularize experience in signing contracts between production units and procurement units and strengthen political and ideological work in the financial departments, enabling commercial work to better serve the producers and consumers. As far as work in the municipalities is concerned, it is necessary to grasp the rectification of food, vegetable supply, catering and other trades. It is also necessary to strengthen market management, strike blows at speculative activities, promote social order, stabilize market prices and promote supplies in the municipalities." Before these cadres started off for the factories and rural areas, the leading cadres of the Provincial CCP Committee spoke to them.

II. PUBLICATIONS

TABLE OF CONTENTS, 'SENGONG KEJI TONGXUN' NO 11, 15 NOV 81

Beijing SENGONG KEJI TONGXUN [FOREST INDUSTRY SCIENCE AND TECHNOLOGY] in English
No 11, 15 Nov 81

[Text]	Table of Contents	Discussions on the maximum load per strip of Jicai-50 skidder...	(1)
		Quick determination of the common troubles with chain saw...	(4)
		Impact load of lateral yarding of cable ways and its effect on their safe operation...	(5)
		Improvement of haulback open-faced block on gravity cable way...	(7)
		A preliminary report of testing on Bai Lin I mechanically automatic grapple...	(8)
		Good effectiveness of the skidding tractors after using universal joint drive...	(8)
		Installation forms of herringbone concrete engineering on raft flume and its calculation...	(9)
		The successful primary test on veneer drying with ultra-infrared...	(12)
		Application of microwave heating technique on drying the surface coating of directly printed board...	(13)
		Study on hot pressing process of wet method production of fibreboard...	(17)
		Use of electromagnet regulated motor in veneer dryer...	(20)
		Test of decorative fibreboard...	(21)
		Use of glue joint wood in automobile production...	(23)
		Views on improvement of heating system for multi-daylights press...	(24)
		"Saw teeth" yarding method and cable unlying prevention device for gear block...	(25)
		Research findings on forest machineries in 1979 in Japan...	(26)
		New technical equipment for log loading...	(27)
		Use of high concentration resin in chipboard production...	(29)
		Measures for reducing formaldehyde remained in plywood...	(30)
		Production technology of chipboard --inside back cover)	

BRIEFS

SOYBEANS FROM PARAGUAY--Taipei, 24 Feb (CNA)--Paraguay will be shipping approximately 20,000 metric tons of soybeans to the ROC this summer, according to an agreement signed in Taipei on 22 Feb. This is the first ROC purchase of soybeans from the Latin American nation. The agreement calls for the shipment of 20,000 metric tons between 15 June and 10 July. The Paraguayan shippers have a 5 percent leeway on the amount they ship. The ROC will pay U.S. dollars 287.50 C and F per metric ton. The agreement to purchase soybeans from Paraguay is part of an official effort to promote trade and good relations between the ROC and Paraguay. [Text] [OW250553 Taipei CNA in English 0933 GMT 24 Feb 82]

RICE PRODUCTION--The Taiwan Provincial Food Bureau said Monday planting of the first rice crop this year has reached 120,000 hectares. A spokesman of the bureau said that due to sufficient rains and stable temperature in recent days, the growth of paddy crops and transplanting activities are going well island-wide. To stabilize food prices and to balance supply and demand, the government has decided to re-set this year's goal in rice production plan at 2.1 million metric tons. Vacated rice paddies, about 51,000 hectares, will be used for the planting of other crops. To protect the income of farmers, the government will continue to offer interest-free loans to farmers in the total amount of NT\$1.3 billion before harvest of the first and second rice crops. The government will also take effective measures to sell the rice in stock. In addition to signed contracts to supply 150,000 metric tons of rice to Indonesia in fiscal year 1982, negotiation is underway for the export of another 346,000 metric tons of rice. [OW250553 Taipei China Post in English 17 Feb 82 p 10]

CSO: 4020/100

Agricultural Research

AUTHOR: LU Chutao [4151 2806 3447]

ORG: Huanggang Prefecture Research Institute of Agricultural Sciences

TITLE: "Preliminary Research on the Yield Increase Result of The Technique of Sparse Planting to Grow Strong Seedlings of Early Rice"

SOURCE: Huanggang HUBEI NONGYE KEXUE [HUBEI AGRICULTURAL SCIENCES] in Chinese No 1, Jan 82 pp 1-5

ABSTRACT: Strong seedlings form the foundation of high yield while sparse seeding is one of the important measures to grow strong seedlings. This has been an effective yield increase measure recognized by all with respect to intermediate, late, and hybrid rice. Regarding early rice, it has been traditionally believed that seedlings of early rice may be transplanted at the age of 4-5 leaves and the quality of seedlings does not influence the yield very much. For this reason, usually about 300 jin/mu of seeds is planted although for early rice there is really less worry about lack of seedbed space. If the weather is less favorable, with problems of low temperature, rain, etc. early rice seedlings will have no tillers, the leaf-area is small, and after being transplanted they turn green very slowly. In 1980-81, a 2-year sparse seeding experiment was carried out. Plots are seeded with 50, 100, 200, and 300 jin/mu to compare with the standard 300 jin level. The area ratio of seedbed and paddy is controlled at 1 : 8 in all cases, with the number of seedlings transplanted varying from 80 to 160, 320, to 480 thousand/mu.

[continuation of HUBEI NONGYE KEXUE No 1, 1982 pp 1-5]

All plots of seedbeds and paddies have identical treatments of fertilizer, irrigation, and disease and pest control measures. Results demonstrate that the final yield is the highest when 50 or 100 jin/mu of seeds are planted to grow seedlings, with the yield increase reaching 12.4-24.5 percent. Compared with the current practice of planting 300 jin/mu of seeds, nearly one hundred million jin of seeds may be saved for the prefecture's 3.5 million mu of early rice crops. With sparse seeding, the transplant age may be more elastic and it becomes possible to delay transplanting until the leaf-age of the seedlings is higher. This is also a favorable condition for labor arrangement. Details of the experimental results are discussed.

AUTHOR: None

ORG: Group for Breeding Cotton of Intermediate Maturity, Institute of Cotton, Hubei Provincial Academy of Agricultural Sciences

TITLE: "Selection Breeding of the New Cotton Breed Emian No 11 and Its Culture Technique"

SOURCE: Huanggang HUBEI NONGYE KEXUE [HUBEI AGRICULTURAL SCIENCES] in Chinese No 1, Jan 82 pp 7-9

ABSTRACT: In compliance with the document of the Ministry of Agriculture Zhong No 8, a new breed of cotton having a quality comparable to Eguangaian and a yield 15 percent higher was bred out in 1980 in Hubei Province. After years of selection and experimentation and from hybrid offsprings of Dai3599 x Gaomi933, the new breed, named Emian No 11 was certified on 27 Nov 81. Demonstrations in Miyang, Jianjiang, Guangji, Huangpo, Yingcheng, etc. in 1980-81 in more than 20,000 mu have proved the quality and the yield property of the new breed. Due to the fact that its seeds are small, they should be carefully selected before being preserved for next year's planting, which should be in the middle Apr to prevent chilling rain. Low temperature may cause the seeds to rot or the seedlings to die. Emian No 11 forms a great deal of bolls in the lower part of the cotton plant; therefore, the space between rows should be wide to allow ventilation and light penetration. It develops fast during the early stage; careful management during seedling stage is essential.

6248

CSO: 4011/3

Agricultural Research

AUTHOR: GAO Zhongli [7559 1813 7787]
GUO Wenyi [6751 2429 3015]

ORG: Both of Taigu County Institute of Agricultural Sciences, Shanxi Province

TITLE: "A Review of the 10 Years Since the Discovery of the 2-2-3 Wheat Sterile Line"

SOURCE: Taiyuan SHANXI NONGYE KEXUE [SHANXI AGRICULTURAL SCIENCES] in Chinese No 1, 20 Jan 82 pp 3-5

ABSTRACT: In Jun 71, masses of Taigu County were mobilized to look for a sterile wheat plant. The authors found 19 single sterile [male sterile] plants of 5 breeds in Guojiabao Brigade. Offsprings of in-breeding and hybridization of these plants all fruited the next year; there was not a single sterile plant. This fact proved that the sterility of these 19 plants is of environmental origin and is not hereditary. It was not until the blooming time of June 72 that a sterile plant was discovered in the field of the new breed, 19-a25-3-2-2-3, an eight-cross hybrid of Shanxi College of Agriculture. From the offsprings of that plant, 24 sterile ones appeared to demonstrate the genetic nature of the sterility of that plant, which was named the 2-2-3 line. Cytological studies performed by scientists of the Institute of Crops Chinese Academy of Agricultural Sciences confirmed that the 2-2-3 sterile plant is a natural mutant of androgenic sterility, controlled by a single dominant gene; they also

[continuation of SHANXI NONGYE KEXUE No 1, 1982 pp 3-5]

gave it the official name of Taigu cytonuclear sterile wheat, Ta 1 for short. They pointed out clearly that Ta 1 is not suitable for coordinating with restorer and sterile-free lines in hybridization but is very useful in regular breeding work. A National Ta 1 Research Cooperative Conference was held in Aug 81 to promote its further theoretical research and practical utilization. The breeding work and research studies of the sterile line since its discovery in Jun 1982 are briefly told.

AUTHOR: DENG Jingyang [6772 2529 2254]
GAO Zhongli [7559 1813 7787]

ORG: DENG of Institute of Crops, Chinese Academy of Agricultural Sciences; GAO of Taigu County Institute of Agricultural Sciences, Shanxi Province

TITLE: "The Discovery, Identification, and Utilization of Taigu Nuclear Sterile Wheat"

SOURCE: Taiyuan SHANXI NONGYE KEXUE [SHANXI AGRICULTURAL SCIENCES] in Chinese No 1, 20 Jan 82 pp 6-12

ABSTRACT: After 20 years of attempts by scientists all over the world to utilize heterosis of F_1 hybrid wheat, success is still beyond reach. In the 60's Borlaug and Wiebe had emphasized the need of breeding nuclear sterility but all available materials belonged to the type controlled by recessive male sterile gene, with complicated and persistent segregation characteristics among the offsprings. In 1972, GAO Zhongli of Guojiabao Brigade, Shuixiu Commune, Taigu County, Shanxi Province discovered a sterile wheat plant, belonging to an 8-cross hybrid bred out by Shanxi Academy of Agricultural Sciences. In 1974, some attempts were made to breed a restorer line without success. Since 1976, the Institute of Crops has carried out experimental research, breeding analyses, and cytological observation to result in its identification as the world's first natural mutant controlled by a single dominant male sterile gene. That is to say the original self-pollinated plant had undergone mutation to become a cross-pollinated plant. This paper re-

[continuation of SHANXI NONGYE KEXUE No 1, 1982 pp 6-12]

ports the experiments, analyses, and observations of the institute, leading to the conclusion that the cytoplasmic breeding property of this pollenless wheat plant is normal and that it is the first discovery in the world of a natural mutant wheat plant controlled by a single dominant male sterile gene. Several theoretical and practical applications of this wheat plant are proposed.

AUTHOR: ZHANG Jinxi [1728 6930 3556]

ORG: Institute of Crops, Chinese Academy of Agricultural Sciences

TITLE: "The Theory and Practice of the 'Leaf-age Method of Promoting-Controlling' Wheat Culture"

SOURCE: Taiyuan SHANXI NONGYE KEXUE [SHANXI AGRICULTURAL SCIENCES] in Chinese No 1, 20 Jan 82 pp 13-19

ABSTRACT: In 1973-76, the author participated in the organization and research work of the Wheat High Yield Joint Experiment Project in Beijing. From various high yield reports, 3 major promoting-controlling methods were summarized and tested in 6 locations and results were not always satisfactory. That experience demonstrated that the major problem was the dates. While all 3 methods use definite dates to determine the time to apply fertilizer and water (to promote growth) or the time not to (to control) the planting time and the weather vary with the breed, the location, and the year. These promoting-controlling dates cannot, therefore, always be reliable. Inspired by the technique proposed by Songdao [a Japanese scientist] to use leaf-age indices to direct fertilizer application in rice culture, a new project was carried out in 1975-78 to study the effects of fertilizer and water application at different leaf-ages on the formation of organs of wheat; the promising results were reported in 1981. In this paper, the leaf-age technique is discussed in terms of the relationship between the leaf-age of wheat and the evolution of organs and spikes. A detailed procedure of fertilizer and water application scheduled in accordance with the number of leaves on the wheat plant is provided.

AUTHOR: SHI Jihui [0670 4949 6540]

ORG: Both of Wanrong County Institute of Agricultural Sciences, Shanxi Province

TITLE: "Several Measures Relating to the Use of Plastic Film Mulch for Early and Complete Growth of Cotton Seedlings"

SOURCE: Taiyuan SHANXI NONGYE KEXUE [SHANXI AGRICULTURAL SCIENCES] in Chinese No 1, 20 Jan 82 pp 25-26

ABSTRACT: The technique of using plastic film as a ground cover in cotton culture began to be experimented in Wanrong County in 1979. The technique was ready for large acreage demonstration and extension in 1981. The results of the 3-year experiment indicate that it can produce obvious yield increases, in dry, wet, or normal years or in fertile or poor fields. In terms of economic benefits, the gain is high in fertile fields and lower in poor fields; in some cases there may even be a loss. Following analyses of these cases of poor results, the paper suggests: (1) Good quality ground leveling; (2) Suitably early planting; (3) Cover the ground quickly with plastic film immediately after a rain and dig holes to plant these seeds instead of planting seeds before covering with the film; (4) If the daytime temperature is very high, scatter some loose soil over the film between rows of cotton seedlings to reduce the ground temperature and protect the seedlings from being burnt.

AUTHOR: ZHANG Henglu [1728 0077 4389]

ORG: Shanxi Provincial Seed Company

TITLE: "Seriously Carry Out Breed Comparison Experiments"

SOURCE: Taiyuan SHANXI NONGYE KEXUE [SHANXI AGRICULTURAL SCIENCES] in Chinese No 1,
20 Jan 82 pp 28-30

ABSTRACT: Basically speaking, breed comparison experiments must meet 3 requirements: (1) It must be of a representative nature in terms of soil, cropping system, wheather condition, cultivation technique, etc. (2) It must be correct in terms of soil fertility, disease and pest condition, animal or bird damage, etc. (3) It must be capable of being repeated. The bulk of the paper deals with problems of using different methods to divide the country into regions for the purpose of comparing breeds of winter wheat, spring wheat, corn, cotton, etc., of choosing suitable standard breeds for comparison, and of standardizing detailed technical requirements for comparative experiments.

6248

CSO: 4011/4

AUTHOR: ZHU Jinwei [2612 0513 0251]
PENG Xiaolan [1756 1420 5695]

ORG: ZHU of Institute of Forest Soils, Chinese Academy of Sciences; PENG of Jiangshanqiao Experimental Tree Farm, Heilongjiang Province

TITLE: "Study on the Cause of Dieback of Young Seedlings of *Pinus koraiensis*"

SOURCE: Beijing LINYE KEJI TONGXUN [FOREST SCIENCE AND TECHNOLOGY] in Chinese No 1, 10 Jan 82 pp 5-9

ABSTRACT: Tips of red pine (*Pinus koraiensis*) seedlings on seedbeds or logged clearings in Xiaoxinganling Forest Region regularly show sign of withering in Mar-Apr. In mild cases, needles will fall later that year; the tree may assume the appearance of a bush or it may die. This condition of dieback has become a prevailing problem and many scientists have studied it but there has been no clear conclusion to this day. Experimental studies were carried out by the Research Institute of Forest Soils, Chinese Academy of Sciences, and the Lilin and the Jiangshanqiao Experimental Tree Farms of Heilongjiang Provincial Academy of Forestry in 1965-67, 1974-75, 1979-80. Results of the experiments appear to indicate that the dieback phenomenon is primarily caused by physiological dryness. During the long winter, the soil is frozen but the tree transpiration continues at an average of 38.4 mg/cm² hour in Jan-Apr and in Dec. Mulching with leaves, sawdust, etc. is an effective measure to prevent dieback.

AUTHOR: ZHU Huaxin [2612 5478 2450]]

ORG: Ganzhou Prefecture Science Committee Information Department, Jiangxi Province

TITLE: "A Good Tree Species of Edible Resin-*Cornus macrophylla*"

SOURCE: Beijing LINYE KEJI TONGXUN [FOREST SCIENCE AND TECHNOLOGY] in Chinese No 1, 10 Jan 82 pp 22-23

ABSTRACT: *Cornus macrophylla* is a deciduous tree distributed along the Huanghe valley and southwestern provinces of China. It grows to a height of 5-15m and a diameter of about 35 cm. It blooms in Apr and the fruits are ripe in Nov. Local people, for more than a century, have pressed the nuts to obtain edible oil. After planting, the tree begins to produce about 30 jin of oil per year in 6-8 years. At that rate, 2 trees produce the same amount of oil as one mu of rape. The oil had also been found to be obviously effective for treating high cholesterol disease. The leaves are good feed; the wood is hard enough to make railroad ties and other forms of construction. It is also a very good species for parks and roadside planting. The oil contents of the meat and nut of the fruit and a chemical analysis of the oil are also reported.

AUTHOR: ZHU Senhao [2612 2773 7729]
YANG Renju [2799 0117 2681]

ORG: Both of Changshan Camellia Research Institute, Zhejiang Province

TITLE: "Experimental Control of Parametriates theae with Insecticides"

SOURCE: Beijing LINYE KEJI TONGXUN [FOREST SCIENCE AND TECHNOLOGY] in Chinese
No 1, 10 Jan 82 pp 24-26

ABSTRACT: Parametriates theae Kus bores into new shoots of oil camellia [Thea oleosa] and about 30-70 percent of the new shoots may be damaged by these pests. Due to the fact that they hide themselves in the shoots, regular methods of spraying cannot produce good results. Moreover, spraying requires more water than the high mountain regions can supply. This paper reports an experiment of mixing a paste with one part of such insecticide as Dimethoate or Thioamino [Pandan] with 0.5-1 part of diesel oil, and a small amount of fine soil to paint a ring around the tree trunk where the new shoots are to appear. The experiment is designed to compare this technique with the spraying technique and the technique of mixing insecticides in the soil near the roots. The painting technique is found to produce the best result.

AUTHOR: SUN Qian [1327 6197]
DOU Shufan [4535 3219 0416]
FAN Zhongmin [5400 1813 3046]
FANG Zhengwu [2455 2973 0582]
IAN Jiechao [6351 2638 6389]
YU Tian [0060 3944]
ZHANG Zuoyan [1728 0155 1484]

ORG: SUN, DOU of Fouxin City Research Institute of Chemical Engineering, Liaoning Province; FAN of Shenyang College of Agriculture; FANG, IAN of Zhoujiadian Tree Farm, Fouxin County, Liaoning Province; YU, ZHANG of Fouxin City, County Forest Protection Station, Liaoning Province

TITLE: "An Experiment on Banding of Trunks With Poisonous Gel for the Control of Overwintering Larvae of Pine Moth"

SOURCE: Beijing LINYE KEJI TONGXUN [FOREST SCIENCE AND TECHNOLOGY] in Chinese
No 1, 10 Jan 82 pp 29-31

ABSTRACT: Polyisobutylene, some emulsifier, and such insecticides as Decamethrin, Sumicidin, etc. are mixed together to form a poisonous gel to paint a ring, 4, 8, or 12 cm in width around the trunk of the tree, about 1 m from the ground surface. The technique was first experimented in 1980 and again on 4-30 Apr 81. Results were judged to be more than 95 percent effective for controlling pine moth larvae. The technique is also safe for animals and people and does not pollute the environment.

6248

27

CSO: 4011/8

Soil Resources

AUTHOR: ZOU Guochu [6760 0948 4342]

ORG: Guangdong Provincial Research Institute of Pedology

TITLE: "Characteristics of Soil Resources of Hilly Areas in South China and Its Rational Use"

SOURCE: Dalian ZIRAN ZIYUAN [NATURAL RESOURCES] in Chinese No 4, Dec 81 pp 5-11

ABSTRACT: By South China, the paper means to include provinces (prefectures) of Zhejiang, Fujian, Jiangxi, Anhui, Hunan, Hubei, Guangdong, Guangxi, Yunnan, Guizhou, Sichuan, and Taiwan where mountains and hills are extensively distributed. Traditionally, it is said that 70 percent are mountains, 20 percent are water, and 10 percent are fields. Aside from Hainan Island and Leizhou Peninsula of Guangdong, Xishuangpanna of Yunnan, and the southeastern mountains of Taiwan which belong to the tropics, the remaining are all subtropical hilly areas. Natural conditions, including the annual mean temperature, rainfall, and accumulated temperature, the varying terrain and soil genesis, and the native vegetation of South China are introduced. In the recent 2 decades, the population pressure has caused an increased emphasis on grain production at the expense of forestry and special native products, with the resultant destruction of ecological balance and serious problems of soil erosion. The loss of forest resources is compounded by a deteriorating agricultural production. The paper classifies South China into 6 types based upon the elevation, the soil, and other natural conditions and recommends formulas of reasonable arrangement of utilization for each type.

AUTHOR: CENG Zhiyuan [2582 1807 6678]

ORG: Nanjing Research Institute of Pedology, Chinese Academy of Sciences

TITLE: "The Density of Satellite Image-Radiation Estimation and Exploration of Soil Resources"

SOURCE: Dalian ZIRAN ZIYUAN [NATURAL RESOURCES] in Chinese No 4, Dec 81 pp 52-66

ABSTRACT: In 1975-77, while proceeding with a survey of soil resources of the southern part of Xinjiang Province, the author and colleagues analyzed the black and white images of 4 wave bands of Landsat-1 and compared them with the ground surface conditions. The region being studied measures about 120,000 km² and includes 171 points of observation where the soil landscape type and various correlated properties are observed. Specimens of numerous soil profiles are taken for laboratory analyses. Through direct observation and using topographical maps and aerial photos, the position of the various landscape types on the satellite image is determined. Satellite transparencies are then used to measure the density and compute the radiation of these locations. Quadratic, cubic, and their coefficient analyses are found to be useful for processing the image data to provide possibilities of quantitative classification and evaluation of soil resources and automated map-making. The correlation of radiation value with soil chemical analysis, the soil fertility, etc. is found to be feasible and useful for the quantification of pedological and geographical studies.

AUTHOR: QI Wenhui [7871 2429 5706]
LI Lixian [2621 4539 6343]
LENG Yunfa [0397 0336 3127]

ORG: All of Natural Resources Comprehensive Survey Committee, Chinese Academy of Sciences

TITLE: "Selecting the Optimum Scheme for Crop Allocation in a Certain Region by Linear Programming"

SOURCE: Dalian ZIRAN ZIYUAN [NATURAL RESOURCES] in Chinese No 4, Dec 81 pp 67-75

ABSTRACT: The Sanjiang Plain of Heilongjiang Province, an area of 103,500 km², is used to test a system analysis method of using a mathematical model and linear programming to produce the optimal formula of crop arrangement for that area. Based upon historical data of the weather conditions, the yield fluctuation of various crops, the proportional allocation of these crops, etc. a mathematical model is designed for the goal of finding a ratio of these crops that will bring about the highest of total yield of grain crops as well as a relative stability of yield from year to year. For the acreage under the jurisdiction of Hongxinglong Farm Management Bureau, one of the older farms of the Sanjiang Plain, having 17 million mu of fields and 20-30 years of history of cultivation, the computation produces a formula of increasing the acreage for grain sorghum [gaoliang] and rice at the expense of wheat and soybean to cause the average yield of unit area to increase from 197 jin/mu to 203 jin/mu. Obviously, among the 6 crops, the unit yield of corn is the highest but the mean variation is also the greatest. The optimum is reached by increasing the acreage of gaoliang and rice, the unit yield of which is higher than that of wheat and soybean. The degree of sensitivity of such mutually constricting conditions is analyzed.

AUTHOR: DAI Changda [2071 2490 6671]
CHEN Baowen [7115 1405 7186]
NI Jianhua [0242 0256 5478]
LIU Yongwei [0491 0516 5898]

ORG: DAI of Nanjing Research Institute of Pedology, Chinese Academy of Sciences; CHEN, NI, LIU of Natural Resources Comprehensive Survey Committee, Chinese Academy of Sciences

TITLE: "The Mathematical Statistical Method in Selecting Optimum Band of the Remote Sensing of Soil Resources"

SOURCE: Dalian ZIRAN ZIYUAN [NATURAL RESOURCES] in Chinese No 4, Dec 81 pp 85-93

ABSTRACT: In order that remote sensing data may contain the richest information concerning soil resources, the least amount of overlapping interference, the best readability, the greatest spectral difference among different types of soil, and the minimum discreteness among individual soils of the same type, an optimal band must be chosen as the work band of the sensor. Methods used by scientists of the USSR, the USA, Japan, etc. for selecting the optimum band are briefly introduced. Of these, the method used by Longshaw et al (1975) to obtain reflection spectral data of plants, soils, and mineral deposits and compare them with the mathematical statistical method (the t-test = student's t-test) is preferred. After a DMR-22 spectrophotometer (made in W. Germany) became available in 1980 to obtain spectral

[continuation of ZIRAN ZIYUAN No 4, 1981 pp 85-93]

reflection curves of 0.36-2.5 μ soil resources, the authors proceeded to digitize them on a graphic data converter before applying the t-test on a computer. The 3 major soils of lateritic loam, volcanic ash soil, and paddy soil of Tengchong Prefecture are used in conjunction with the Tengchong Aerial Remote Sensing Experiment to select the optimal wavelength. Results demonstrate that for the purpose of distinguishing the 3 types of soils as well as some soils of transitional characteristics among them, the best band is 600-680 m μ , with the band of 700-760 m μ as the second best. The improved t-test, as described in the paper, is found to be reliable for selecting and verifying the optimum remote sensing band for soil resources and for multi-purpose remote sensing projects of prospecting other resources as well.

6248

CSO: 4011/7

AUTHOR: XU Pengru [6079 7720 1172]

ORG: Department of Veterinary Medicine, South China College of Agriculture

TITLE: "A Survey of Babesiosis of Dairy Cattle at a Certain Animal Farm in the Suburb of Guangzhou"

SOURCE: Beijing ZHONGGUO SHOUYI ZAZHI [CHINESE JOURNAL OF VETERINARY MEDICINE] in Chinese No 11, 22 Nov 81 pp 6-10

ABSTRACT: In 1963, a certain animal farm in the suburb of Guangzhou imported 41 dairy cows from Luda [of Liaoning Province.] They arrived on 24 May and began to be sick on 11 Jun. Clinical symptoms include obvious anemia, loss of weight, weakness, inability to stand up, skin turning cold, and frequent trembles. Four of the cows died in 4-5 days. Pests of the genus Babesia were found in the blood of 10 of the cows. Three cows were treated with Paludrine, two with Acaprin, two with Babesan after other drugs proved ineffective, and 20 cows with Trypaflavine. Paludrine was found to have a preventive effect but not for cure. Acaprin and Babesan are effective but have side effects. Trypaflavine is effective in only about 50 percent of the cases treated. In view of the fact that ticks (*Boophilus coudatus* and *Rhipicephalus* sp.) prevail in this region and cows imported from the north cannot adjust to the local environment immediately, it is important to carry out tick extermination work before importing dairy cattle. Prevention, diagnosis, and treatment are, of course, also important.

AUTHOR: WANG Hongcheng [3769 3163 2110]
WANG Yazhi [3769 0068 5347]
WANG Hongkuan [3769 3163 1401]

ORG: WANG, WANG of Zhaodong County Veterinary Medicine and Epidemic Prevention Station, Heilongjiang Province; WANG of Song Station Animal Hospital, Zhaodong County, Heilongjiang Province

TITLE: "Treatment of Milk Fever in Dairy Cattle by Integrated Chinese Traditional and Western Veterinary Medicine: Report of 97 Cases"

SOURCE: Beijing ZHONGGUO SHOUYI ZAZHI [CHINESE JOURNAL OF VETERINARY MEDICINE] in Chinese No 11, 22 Nov 81 pp 34-36

ABSTRACT: Milk fever of dairy cows is a paralytic disease often occurring to high producing cows within 3 days after calving. In the 10 years of 1969-78, 97 cases occurred among the 2839 cows that had calves in the Song Station Dairy Farm of Zhaodong County. There were 3 deaths; all died before treatment. The remaining 94 cows were all cured. The simplest and most effective treatment is to inject air into the breasts and 68 cows of this group are cured after one injection; 19 are cured after a second injection; and 7 after a third injection. Glucose solution, calcium chloride solution, and decoction of Chinese traditional drugs are also administered in cases of more severe paralysis. The air injection is to stop milk secretion immediately and temporarily as the internal pressure of the breasts is raised so that there will not be a loss of calcium and sugar and the blood pressure of the cows may be raised as well.

6248

CSO: 4009/221

END
31

END OF

FICHE

DATE FILMED

MARCH 12, 1952